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NEWS 9	AUG 15	CAplus currency for Korean patents enhanced
NEWS 10	AUG 27	CAS definition of basic patents expanded to ensure comprehensive access to substance and sequence information
NEWS 11	SEP 18	Support for STN Express, Versions 6.01 and earlier, to be discontinued
NEWS 12	SEP 25	CA/CAplus current-awareness alert options enhanced to accommodate supplemental CAS indexing of exemplified prophetic substances
NEWS 13	SEP 26	WPIDS, WPINDEX, and WPIX coverage of Chinese and and Korean patents enhanced
NEWS 14	SEP 29	IFICLS enhanced with new super search field
NEWS 15	SEP 29	EMBASE and EMBAL enhanced with new search and display fields
NEWS 16	SEP 30	CAS patent coverage enhanced to include exemplified prophetic substances identified in new Japanese-language patents
NEWS 17	OCT 07	EPFULL enhanced with full implementation of EPC2000
NEWS 18	OCT 07	Multiple databases enhanced for more flexible patent number searching
NEWS 19	OCT 22	Current-awareness alert (SDI) setup and editing enhanced
NEWS 20	OCT 22	WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT Applications
NEWS 21	OCT 24	CHEMLIST enhanced with intermediate list of pre-registered REACH substances

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AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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FILE LAST UPDATED: 19 Nov 2008 (20081119/ED)

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=> e mesoporous platinum

E1	1	MESOPOROSTY/BI
E2	21685	MESOPOROUS/BI
E3	0	--> MESOPOROUS PLATINUM/BI
E4	1	MESOPOROUSLY/BI
E5	1	MESOPORPHINATO/BI
E6	10	MESOPORPHINE/BI
E7	2	MESOPORPHINES/BI
E8	1	MESOPORPHIRIN/BI
E9	1	MESOPORPHORINS/BI
E10	1388	MESOPORPHYRIN/BI
E11	3	MESOPORPHYRINATE/BI

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E12           5     MESOPORPHYRINATO/BI

=> e
E13           2     MESOPORPHYRINATOIRON/BI
E14           1     MESOPORPHYRINBIS/BI
E15           1     MESOPORPHYRINDI/BI
E16           1     MESOPORPHYRINDIAMIDE/BI
E17           1     MESOPORPHYRINDICARBONYL/BI
E18           1     MESOPORPHYRINDIGLYCINE/BI
E19           1     MESOPORPHYRINDIONES/BI
E20           3     MESOPORPHYRINE/BI
E21           1     MESOPORPHYRINESTER/BI
E22           1     MESOPORPHYRINETHYL/BI
E23           1     MESOPORPHYRINGLOBIN/BI
E24           3     MESOPORPHYRINIC/BI

=> e mesoporous pt
E25           1     MESOPOROSTY/BI
E26       21685     MESOPOROUS/BI
E27           0 --> MESOPOROUS PT/BI
E28           1     MESOPOROUSLY/BI
E29           1     MESOPORPHINATO/BI
E30          10     MESOPORPHINE/BI
E31           2     MESOPORPHINES/BI
E32           1     MESOPORPHIRIN/BI
E33           1     MESOPORPHORINS/BI
E34        1388     MESOPORPHYRIN/BI
E35           3     MESOPORPHYRINATE/BI
E36           5     MESOPORPHYRINATO/BI

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The arrow (=>) is the system prompt, where you enter a command.  For
an explanation of system commands, files, formats, etc., enter "HELP"
and the name of the item you want explained at an arrow prompt (=>).
Enter "HELP COMMANDS" for a list of commands that can be used in this
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are available.  The "?" can be used as a synonym for "HELP".

Help is also available at any prompt, and after any error message.
Enter "HELP" or "?" at a prompt to see an explanation of the options.
After an error message, enter "HELP" or "?" at the next prompt and you
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STN Service Centers.  You may also choose to contact the database
representative for the file you are searching, for more detailed help
on database content and search strategy.  For information on how to
contact database representatives for the current file, enter "HELP
DESK" at an arrow prompt (=>).

=> s mesoporous
L1        21685 MESOPOROUS
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```
=> s platinum or pt
        243963 PLATINUM
            80 PLATINUMS
        243987 PLATINUM
                  (PLATINUM OR PLATINUMS)
        263285 PT
          5625 PTS
        267937 PT
                  (PT OR PTS)
L2      370667 PLATINUM OR PT

=> s l2 (s) l1
L3         655 L2 (S) L1

=> s l3 and glucose
        462412 GLUCOSE
           901 GLUCOSES
        462620 GLUCOSE
                  (GLUCOSE OR GLUCOSES)
L4          14 L3 AND GLUCOSE

=> d l4 ibib abs

L4   ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        2008:1305406  CAPLUS Full-text
TITLE:                   From mesoporous alumina to Pt
                         /Al2O3 catalyst: A comparative study of the aluminas
                         synthesis in aqueous medium, physicochemical
                         properties and stability
AUTHOR(S):               Handjani, Soraya; Blanchard, Juliette; Marceau, Eric;
                         Beaunier, Patricia; Che, Michel
CORPORATE SOURCE:        Universite Pierre et Marie Curie-Paris 6, Laboratoire
                         de Reactivite de Surface (UMR 7609 CNRS), 4 Place
                         Jussieu, Paris, 75252, Fr.
SOURCE:                  Microporous and Mesoporous Materials (2008), 116(1-3),
                         14-21
                         CODEN: MIMMFJ; ISSN: 1387-1811
PUBLISHER:               Elsevier
DOCUMENT TYPE:           Journal
LANGUAGE:                English
AB    In the present paper are compared the physicochem. properties and stability of
      mesoporous aluminas synthesized following five routes in which water is the
      solvent.  TEM shows that high pHs lead to heterogeneous materials because of
      the initial formation of bayerite, which is converted to η-alumina upon
      calcination and may reappear upon contacting the calcined oxide with water.
      The most promising procedures use neutral organic additives at moderate pH;
      materials are homogeneous, with sp. surface areas of 350 ± 20 m2 g-1.  The
      similarity of results obtained for the different routes, whatever the organic
      additive, suggests that the formation of the precipitated phase occurs not
      around micelles, but through the formation and sticking of boehmite
      nanoparticles, mediated by the organic agent present in a mol. form or as
      aggregates.  The different ways to overcome the limits imposed by this
      mechanism are discussed.  The alumina prepared with the addition of glucose is
      checked to be suitable as support for a Pt/Al2O3 catalyst prepared by
      impregnation with a basic solution



=> d l4 ibib abs all
```

L4 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:1305406 CAPLUS Full-text
TITLE: From mesoporous alumina to Pt /Al2O3 catalyst: A comparative study of the aluminas synthesis in aqueous medium, physicochemical properties and stability
AUTHOR(S): Handjani, Soraya; Blanchard, Juliette; Marceau, Eric; Beaunier, Patricia; Che, Michel
CORPORATE SOURCE: Universite Pierre et Marie Curie-Paris 6, Laboratoire de Reactivite de Surface (UMR 7609 CNRS), 4 Place Jussieu, Paris, 75252, Fr.
SOURCE: Microporous and Mesoporous Materials (2008), 116(1-3), 14-21
CODEN: MIMMFJ; ISSN: 1387-1811
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
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AN 2008:1305406 CAPLUS Full-text
ED Entered STN: 30 Oct 2008
TI From mesoporous alumina to Pt/Al2O3 catalyst: A comparative study of the aluminas synthesis in aqueous medium, physicochemical properties and stability
AU Handjani, Soraya; Blanchard, Juliette; Marceau, Eric; Beaunier, Patricia; Che, Michel
CS Universite Pierre et Marie Curie-Paris 6, Laboratoire de Reactivite de Surface (UMR 7609 CNRS), 4 Place Jussieu, Paris, 75252, Fr.
SO Microporous and Mesoporous Materials (2008), 116(1-3), 14-21
CODEN: MIMMFJ; ISSN: 1387-1811
PB Elsevier
DT Journal
LA English
CC 67 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
AB In the present paper are compared the physicochem. properties and stability of mesoporous aluminas synthesized following five routes in which water is the solvent. TEM shows that high pHs lead to heterogeneous materials because of the initial formation of bayerite, which is converted to η-alumina upon calcination and may reappear upon contacting the calcined oxide with water. The most promising procedures use neutral organic additives at moderate pH; materials are homogeneous, with sp. surface areas of 350 ± 20 m2 g-1. The similarity of results obtained for the different routes, whatever the organic additive, suggests that the formation of the precipitated phase occurs not around micelles, but through the formation and sticking of boehmite nanoparticles, mediated by the organic agent present in a mol. form or as aggregates. The different ways to overcome the limits imposed by this

mechanism are discussed. The alumina prepared with the addition of glucose is checked to be suitable as support for a Pt/Al2O3 catalyst prepared by impregnation with a basic solution

=> d l4 1-14 ibib abs

L4 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:1305406 CAPLUS Full-text
TITLE: From mesoporous alumina to Pt /Al2O3 catalyst: A comparative study of the aluminas synthesis in aqueous medium, physicochemical properties and stability
AUTHOR(S): Handjani, Soraya; Blanchard, Juliette; Marceau, Eric; Beaunier, Patricia; Che, Michel
CORPORATE SOURCE: Universite Pierre et Marie Curie-Paris 6, Laboratoire de Reactivite de Surface (UMR 7609 CNRS), 4 Place Jussieu, Paris, 75252, Fr.
SOURCE: Microporous and Mesoporous Materials (2008), 116(1-3), 14-21
CODEN: MIMMFJ; ISSN: 1387-1811
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In the present paper are compared the physicochem. properties and stability of mesoporous aluminas synthesized following five routes in which water is the solvent. TEM shows that high pHs lead to heterogeneous materials because of the initial formation of bayerite, which is converted to η-alumina upon calcination and may reappear upon contacting the calcined oxide with water. The most promising procedures use neutral organic additives at moderate pH; materials are homogeneous, with sp. surface areas of 350 ± 20 m2 g-1. The similarity of results obtained for the different routes, whatever the organic additive, suggests that the formation of the precipitated phase occurs not around micelles, but through the formation and sticking of boehmite nanoparticles, mediated by the organic agent present in a mol. form or as aggregates. The different ways to overcome the limits imposed by this mechanism are discussed. The alumina prepared with the addition of glucose is checked to be suitable as support for a Pt/Al2O3 catalyst prepared by impregnation with a basic solution

L4 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:634287 CAPLUS Full-text
DOCUMENT NUMBER: 149:162485
TITLE: Fabrication and characterization of platinum black and mesoporous platinum electrodes for in-vivo and continuously monitoring electrochemical sensor applications
AUTHOR(S): Seo, Hye-Kyoung; Park, Dae-Joon; Park, Jae-Yeong
CORPORATE SOURCE: Department of Electronic Engineering, Kwangwoon University, Seoul, 139-701, S. Korea
SOURCE: Thin Solid Films (2008), 516(16), 5227-5230
CODEN: THSFAP; ISSN: 0040-6090
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Most electrochem. biosensors are disposable due to enzymes that are living creatures. Thus, these are limited to use in in-vivo and continuously

monitoring biosensor system applications. The mesoporous (pores with a size of 2-50 nm) Pt structure formed on a rod-shaped Pt microelectrode was reported for developments glucose sensors without any enzymes. Plane Pt electrode (nontreated), Pt black electrode, and mesoporous Pt electrode are fabricated and characterized on a Si substrate to check their usability as enzymeless sensing electrodes for in-vivo and continuously monitoring electrochem. biosensors integrated with Si CMOS read-out circuitry. The Pt black electrode with rough surface was fabricated by using an electrodeposition technique with hexachloroplatinic acid hydrate (HCPA) solns. The proposed mesoporous Pt electrode with .apprx.3 nm in pore diameter was fabricated by using an electrodeposition technique with nonionic surfactant octaethylene glycol monohexadecyl ether (C16EO8) and HCPA. The measured current responses at 40 mM glucose solution of the fabricated plane Pt, Pt black, and mesoporous Pt electrodes are .apprx.12.4 nA/mm2, 2.1 μA/mm2, and 2.8 μA/mm2, resp. The mesoporous Pt electrode is much more sensitive than the other Pt electrodes and has strong potential for enzymeless electrochem. sensor applications.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2008:521505 CAPLUS Full-text

DOCUMENT NUMBER: 149:57408

TITLE: Core/shell Pt/C nanoparticles embedded in mesoporous carbon as a methanol-tolerant cathode catalyst in direct methanol fuel cells

AUTHOR(S): Wen, Zhenhai; Liu, Juan; Li, Jinghong

CORPORATE SOURCE: Department of Chemistry, Key Laboratory of Bio-organic Phosphorus Chemistry and Chemical Biology, Tsinghua University, Beijing, 100084, Peop. Rep. China

SOURCE: Advanced Materials (Weinheim, Germany) (2008), 20(4), 743-747
CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Pt nanoparticles covered with a film of microporous C (Pt@C) were uniformly embedded in mesoporous C by in situ deposition of Pt and glucose polymerization in the pores of mesoporous SiO2 (SBA-15), which was subsequently removed by etching. The nanometer-scale hybrid material shows superior catalytic performance for MeOH-tolerant O electroredn.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2008:148322 CAPLUS Full-text

DOCUMENT NUMBER: 148:532128

TITLE: Nanofabrication of enzymeless micro-biosensors with mesoporous platinum and platinum black working electrodes

AUTHOR(S): Seo, Hye-Kyoung; Park, Dae-Joon; Park, Jae-Yeong

CORPORATE SOURCE: Department of Electronic Engineering, Kwangwoon University, Seoul, 139-701, S. Korea

SOURCE: Journal of the Korean Physical Society (2007), 51(Suppl. 3, Proceedings of the 14th Korean Conference on Semiconductors, 2007), S284-S288
CODEN: JKPSDV; ISSN: 0374-4884

PUBLISHER: Korean Physical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this paper, enzymeless micro-biosensors with mesoporous (nano-pore array with diameter ranging from 2 nm to 50 nm) platinum and platinum black as working electrodes are fabricated, characterized, and compared on a silicon substrate in order to develop continuously monitoring micro-bio chips or sensor systems to be integrated with CMOS readout circuitry. The measured current responses of these fabricated micro-biosensors with a plane Pt electrode, a Pt black electrode, and a mesoporous Pt electrode were 9.74 nA/mm2, 4.42 μA/mm2 and 12.97 μA/mm2 in 10-mM glucose solution, resp.
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:84491 CAPLUS Full-text
DOCUMENT NUMBER: 148:325894
TITLE: Development of amperometric glucose biosensor through immobilizing enzyme in a Pt nanoparticles/mesoporous carbon matrix
AUTHOR(S): Yu, Jingjing; Yu, Donglei; Zhao, Tian; Zeng, Baizhao
CORPORATE SOURCE: Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China
SOURCE: Talanta (2008), 74(5), 1586-1591
CODEN: TLNTA2; ISSN: 0039-9140
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Pt nanoparticles were deposited on mesoporous carbon material CMK-3. Glucose oxidase (GOx) was immobilized in the resulting Pt nanoparticles/mesoporous carbon (Pt/CMK-3) matrix, and then the mixture was cast on a glassy carbon electrode (GCE) using gelatin as a binder. The glucose biosensor exhibited excellent current response to glucose after crosslinking with glutaraldehyde. The response time (time for achieving 95% of the maximum current) was 15 s and the detection limit (S/N = 3) was 1 μM. The Michaelis-Menten constant (Kappm) and the maximum c.d. (imax) were 10.8 mM and 908 μA cm-2, resp. The activation energy of the enzymic reaction was estimated to be 22.54 kJ mol-1. The biosensor showed good stability. It achieved the maximum response current at about 52°C and retained 95.1% of its initial response current after being stored for 30 days. In addition, some fabrication and operation parameters for the biosensor were optimized in this work. The biosensor was used to monitor the glucose levels of serum samples after being covered with an extra Nafion film to improve its anti-interferent ability and satisfied results were obtained.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:577262 CAPLUS Full-text
DOCUMENT NUMBER: 148:256850
TITLE: Design and fabrication of nano-hole arrayed Pt electrodes for CMOS integrated bio-sensor applications
AUTHOR(S): Seo, Hye K.; Park, Dae J.; Park, Jae Y.
CORPORATE SOURCE: Department of Electronic Engineering, Kwangwoon University, Seoul, S. Korea
SOURCE: Integrated Ferroelectrics (2007), 89, 189-198
CODEN: IFEREU; ISSN: 1058-4587
PUBLISHER: Taylor & Francis Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB All of the biosensors which are com. available are based on the enzymic electrochem. anal. Thus, they are disposable due to the use of the enzymes

that are living creatures. These biosensors are limited to the in-vivo and mobile sensor system applications. In this paper, a nano-hole (mesoporous) arrayed Pt electrode is investigated for developing the non-disposable sensors without using any enzymes, which are also integrated with silicon CMOS read out circuitry. In comparison of the nano-hole arrayed Pt electrode and the plane (or flat) Pt electrode, the nano-hole arrayed Pt electrode is much more sensitive than the plane Pt electrode to the electrolyte concns. and the glucose. The current responses of nano-hole arrayed Pt electrode and the plane Pt electrode are approx. 4.62 A/mm2 and 9.91 nA/mm2 resp. in 10 mM glucose solution This result shows the nano-fabricated mesoporous Pt electrode is promising for CMOS integrated non-disposable sensor applications.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:632378 CAPLUS Full-text

DOCUMENT NUMBER: 145:106776

TITLE: Fabrication of mesoporous metal electrodes in non-liquid-crystalline phase and its application

INVENTOR(S): Kim, Hee-Chan; Chung, Taek Dong; Park, Sejin; Boo, Hankil; Lee, Sunyoung

PATENT ASSIGNEE(S): Seoul National University Industry Foundation, S. Korea

SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006068444	A1	20060629	WO 2005-KR4487	20051223
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 20080096089	A1	20080424	US 2007-722781	20070625
PRIORITY APPLN. INFO.:			KR 2004-110900 A	20041223
			WO 2005-KR4487 W	20051223

AB A method for the fabrication of a mesoporous metal electrode in a non-liq. crystalline phase was tested. Specifically, there was tested the efficacy of the method for the fabrication of a mesoporous metal electrode which comprises forming the mesoporous metal electrode on a substrate by chemical or electrochem. reduction of a mixture comprising a solvent, a structure-directing agent, and a source of a metal, characterized in that the mixture is maintained in a non-liquid crystal phase. Furthermore, the usefulness of the mesoporous metal electrode thus prepared from the non-liquid crystalline phase was also tested. The mesoporous metal electrode prepared from the non-liquid crystalline phase had a large surface area, and a roughness factor thereof was controlled by charges passed during electroplating. The method made it possible to fabricate the mesoporous metal electrode in the non-liquid

crystalline phase, even more flexible than a liquid crystalline phase. The mesoporous metal electrode prepared by the method had randomly distributed mesopores on the surface thereof and retained a large roughness factor. The method was found to be a good alternative to the conventional fabrication of porous platinum films in the liquid crystalline phase. Furthermore, the method was found to be suitably applicable to automatic processes, because the mesoporous metal electrode was prepared in the highly flexible non-liquid crystalline phase. Recovery and recycling of raw materials were also improved. The mesoporous metal electrode prepared by the method can be suitably used for the detection of glucose and proton, and as a cathode or an anode of fuel cells.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1314975 CAPLUS Full-text

DOCUMENT NUMBER: 145:91599

TITLE: Templated synthesis, characterization, and sensing application of macroscopic platinum nanowire network electrodes

AUTHOR(S): Wang, Donghai; Kou, Rong; Gil, Maria P.; Jakobson, Hans Peter; Tang, Jing; Yu, Donghong; Lu, Yunfeng

CORPORATE SOURCE: Department of Chemical and Biomolecular Engineering, Tulane University, New Orleans, LA, 70118, USA

SOURCE: Journal of Nanoscience and Nanotechnology (2005), 5(11), 1904-1909
CODEN: JNNOAR; ISSN: 1533-4880

PUBLISHER: American Scientific Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Novel platinum nanowire network electrodes have been fabricated through electrodeposition using mesoporous silica thin films as templates. These electrodes were characterized by X-ray diffraction, transmission electron microscope, and scanning electron microscope. The electrochem. properties of the electrodes, such as electrochem. active area and methanol oxidation, have also been studied. Compared with conventional polycryst. Pt electrodes, these novel nanowire network electrodes possess high electrochem. active areas and demonstrate higher current densities and a lower onset potential for methanol electro-oxidation Enzymic Pt nanowire-network-based sensors show higher sensitivity for glucose detection than that using conventional polycryst. Pt electrode. Such macroscopic nanowire network electrodes provide ideal platforms for sensing and other device applications.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:69965 CAPLUS Full-text

DOCUMENT NUMBER: 143:74169

TITLE: Scanning electrochemical microscopy (SECM): localized glucose oxidase immobilization via the direct electrochemical microspotting of polypyrrole-biotin films

AUTHOR(S): Evans, Stuart A. G.; Brakha, Karine; Billon, Martial; Mailley, Pascal; Denuault, Guy

CORPORATE SOURCE: Department of Chemistry, University of Edinburgh, Edinburgh, EH9 3JJ, UK

SOURCE: Electrochemistry Communications (2005), 7(2), 135-140
CODEN: ECCMF9; ISSN: 1388-2481

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This paper describes the successful combination of nanostructured microelectrodes, biotin-avidin chemical and the direct and generation-collection modes of the scanning electrochem. microscope (SECM) to enable the fabrication, functionalization and characterization of biol. active microspots. The SECM tip was used as an electrochem. "pen" to drive the deposition of a micrometre size spot of biotinylated polypyrrole. Subsequent reaction with avidin and a biotinylated enzyme enabled the construction of a "mol. sandwich" capable of producing H2O2. The SECM tip was then used to "read" the activity of the microspot. A major contribution to this work was the use of mesoporous platinum tips to reliably detect the localized production of H2O2. In contrast to previous approaches this combination of localized deposition, high selectivity of the biotin-avidin binding and reliable imaging only requires one instrument and offers a valuable alternative for the fabrication and characterization of novel multi-analyte biosensor arrays.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:292155 CAPLUS Full-text

DOCUMENT NUMBER: 140:283962

TITLE: Mesoporous platinum electrode and method for detecting biochemical substrate using the mesoporous platinum electrode

INVENTOR(S): Kim, Hee-chan; Park, Sejin; Chung, Taek-dong

PATENT ASSIGNEE(S): S. Korea

SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004029611	A1	20040408	WO 2003-KR884	20030502
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2004026323	A	20040331	KR 2002-57740	20020924
AU 2003223139	A1	20040419	AU 2003-223139	20030502
EP 1546697	A1	20050629	EP 2003-719254	20030502
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006500582	T	20060105	JP 2004-539610	20030502
US 20060008667	A1	20060112	US 2005-528721	20050322

PRIORITY APPLN. INFO.:

KR 2002-57740	A	20020924
WO 2003-KR884	W	20030502

AB The present invention relates to a mesoporous platinum electrode for detecting biochem. substrate, comprising an electrode and a mesoporous platinum layer covering the surface thereof, and a method for detecting a biochem. substrate using the mesoporous platinum electrode. Using the present invention, glucose

concentration can be selectively determined while excluding interference of interfering agents.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:369749 CAPLUS Full-text
DOCUMENT NUMBER: 139:81508
TITLE: Nonenzymatic glucose detection using mesoporous platinum
AUTHOR(S): Park, Sejin; Chung, Taek Dong; Kim, Hee Chan
CORPORATE SOURCE: Department of Biomedical Engineering, College of Medicine and Institute of Medical and Biological Engineering, Medical Research Center, Seoul National University, Seoul, 110-744, S. Korea
SOURCE: Analytical Chemistry (2003), 75(13), 3046-3049
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Roughness of nanoscopic dimensions can be used to selectively enhance the faradaic current of a sluggish reaction. Using this principle, we constructed mesoporous structures on the surfaces of pure platinum electrodes responding even more sensitively to glucose than to common interfering species, such as L-ascorbic acid and 4-acetamidophenol. Good sensitivities, as high as 9.6 μA cm-2 mM-1, were reproducibly observed in the presence of high concentration of chloride ion. The selectivities, sensitivities, and stabilities determined exptl. have demonstrated the potential of mesoporous platinum as a novel candidate for nonenzymic glucose sensors.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:178815 CAPLUS Full-text
TITLE: Mesoporous platinum for nonenzymatic glucose detection by amperometry and impedance method
AUTHOR(S): Park, Sejin; Chung, Taek Dong; Kim, Hee Chan
CORPORATE SOURCE: Institute of Medical and Biological Engineering, Medical Research Center, Seoul National University, 110-744 Seoul, S. Korea
SOURCE: Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), ANYL-106. American Chemical Society: Washington, D. C.
CODEN: 69DSA4
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB It was demonstrated that mesoporous platinum electrodes provide opportunities to achieve effective ways of nonenzymic glucose detection by amperometry and impedance measurements. Based on the principle that the faradaic currents of sluggish reactions can be selectively enhanced on the electrodes with roughness of nanoscopic dimensions, we constructed mesoporous platinum electrodes responding even more sensitively to glucose than to common interfering species (i.e., L-ascorbic acid and 4-acetamidophenol). In amperometry, good sensitivities as high as 9.6 μA cm-2 mM-1 were reproducibly observed in the presence of high concns. of chloride ion. On the other hand, the imaginary impedance was reciprocally proportional to the square of the glucose concentration at low ac frequency. Impedance measurements in place of

amperometry improved the selectivity for glucose and shortened the stabilizing time, which is hard to avoid in amperometric measurements.

L4 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:116683 CAPLUS Full-text
DOCUMENT NUMBER: 136:160501
TITLE: Detection of hydrogen peroxide at mesoporous platinum microelectrodes
AUTHOR(S): Evans, Stuart A. G.; Elliott, Joanne M.; Andrews, Lynn M.; Bartlett, Philip N.; Doyle, Peter J.; Denuault, Guy
CORPORATE SOURCE: Department of Chemistry, University of Southampton, Southampton, SO17-1BJ, UK
SOURCE: Analytical Chemistry (2002), 74(6), 1322-1326
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mesoporous (HI-ePt) Pt microelectrodes electrodeposited from the hexagonal (HI) lyotropic liquid crystalline phase are shown to be excellent amperometric sensors for the detection of H2O2 over a wide range of concns. Good reproducibility, high precision, and accuracy of measurements are demonstrated. Mesoporous microelectrodes retain the high rates of mass transport typical of conventional microelectrodes, and their high real surface area greatly enhances their catalytic activity. This unique combination of properties overcomes the limitations of previous amperometric H2O2 sensors and yields outstanding qual. and quant. results.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:464247 CAPLUS Full-text
DOCUMENT NUMBER: 135:63253
TITLE: Molecular recognition imprint coatings for selective functionalized mesoporous sorbents for separation processes and sensors
INVENTOR(S): Dai, Sheng; Burleigh, Mark C.; Shin, Yongsoon
PATENT ASSIGNEE(S): University of Tennessee Research Corporation, USA; U. T. Battelle, LLC
SOURCE: U.S., 18 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6251280	B1	20010626	US 1999-396067	19990915
PRIORITY APPLN. INFO.:			US 1999-396067	19990915

AB High-capacity mesoporous sorbents with mol. recognition capability are prepared through a mol. imprinting technique in which the template mol., which is specific to capture a small organic mol., is bound by a bifunctional ligand to a complexing metal cation, which includes reactive ligands that react with and bind the template to the substrate. This mol. recognition capability extends to a small mol. that can fit into the pores of the substrate. Typical templates are complexes of a divalent metal cation with a trialkoxysilylalkyl-terminated 1,2-diamine or polyamine. The mesoporous sorbent is prepared by: (1) mixing an imprint coating precursor and an ordered mesoporous substrate to

form a coated substrate in which the coating comprises the template bound by the bifunctional ligand, (2) treating the coated mesoporous substrate with an acid solution, (3) evaporating the mixture, and (4) titrating the coated mesoporous substrate to a neutral pH to form the sorbent. These sorbents have application in the separation and removal of metal cations from wastewater, paints, etc.; detection of target mols. (e.g., amino acids, pharmaceuticals, herbicides, fertilizers, explosives, etc.); chromatog. active phases; imaging agents; sensors; coatings; and composites.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT